

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* ULF MENYES, ULRICH ROTH  
AND THOMAS JIRA

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Appeal No. 2002-1934  
Application 09/295,539

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ON BRIEF

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Before OWENS, KRATZ and PAWLIKOWSKI, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

*DECISION ON APPEAL*

This appeal is from the final rejection of claims 3-5, which are all of the claims remaining in the application.

*THE INVENTION*

The appellants claim a method for separating polycyclic aromatic hydrocarbons using a calixarene-containing stationary separation phase. The claims on appeal are as follows:

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3. A method of separating polycyclic aromatic hydrocarbons comprising dissolving polycyclic aromatic hydrocarbons in a solvent wherein a solution is formed; passing said solution over a calixarene-containing stationary separation phase wherein said polycyclic aromatic hydrocarbons are spatially separated from one another.

4. A method in accordance with Claim 3 wherein said calixarene-containing stationary separation phase includes silanol or a silanol group.

5. A method in accordance with Claim 3 wherein said solution is liquid and said method is liquid chromatography.

#### *THE REJECTIONS*

The claims stand rejected as follows: claims 3-5 under 35 U.S.C. § 112, enablement requirement, and claim 4 under 35 U.S.C. § 112, written description requirement.

#### *OPINION*

We reverse the nonenablement rejection and affirm the written description rejection. Because the affirmance is based upon rationale which differs substantially from that advanced by the examiner, we denominate the affirmance as involving a new ground of rejection under 37 CFR § 1.196(b).

#### *Rejection of claims 3-5 under*

#### *35 U.S.C. § 112, enablement requirement*

A specification complies with the 35 U.S.C. § 112, first paragraph, enablement requirement if it allows those of ordinary skill in the art to make and use the claimed invention without

undue experimentation. *See In re Wright*, 999 F.2d 1557, 1561, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993).

The examiner argues that the claimed invention is not enabled by the appellants' specification because the only calixarene-containing stationary separation phases specifically disclosed therein are identified by their trade names, Caltrex® AI and Caltrex® BI, rather than by their specific compositions (answer, page 3). The compositions represented by the trade names, the examiner argues, could change over time. *See id.*

The appellants broadly disclose using a calixarene-modified stationary separation phase to separate polycyclic aromatic hydrocarbons (specification, page 2, lines 7-10), and broadly recite "a calixarene-modified stationary separation phase" in their independent claim. The appellants' disclosure and method are not limited to using Caltrex® AI and Caltrex® BI. As indicated by references of record,<sup>1</sup> such calixarene-containing stationary phases were known in the art at the time the

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<sup>1</sup> See W. Xu et al., "Preparation and Characterization of *p*-tert-Butyl-Calix[6]arene-Bonded Silica Gel Stationary Phase for High-Performance Liquid Chromatography", 48 *Chromatographia* 245-48 (1998), and Rainer Brindle et al., "Silica-bonded calixarenes in chromatography. I. Synthesis and characterization by solid-state NMR spectroscopy", 731 *J. Chromatography A* 41-46 (1996).

appellants' application was filed. The examiner has not established that the appellants' specification would have failed to enable one of ordinary skill in the art to carry out the claimed method without undue experimentation using the known calixarene-modified stationary separation phases.<sup>2</sup>

The examiner argues that the effectiveness of different calixarene-containing stationary separation phases varies considerably and is not predictable (answer, pages 3-4). Therefore, the examiner argues, "undue experimentation would be required to determine which calixarene-containing stationary separation phases would be effective in a process to separate polycyclic aromatic hydrocarbons" (answer, page 4). In support of these arguments the examiner cites Sixun Sun et al., "Capillary Electrokinetic Chromatography Employing p-(Carboxyethyl)-calix[n]arenes as Running Buffer Additives", 69 *Anal. Chem.* 344-48 (1997). The examiner's arguments are not persuasive because the examiner does not explain how the relied-upon reference supports the arguments.

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<sup>2</sup> Even if one of ordinary skill in the art needed to use Caltrex® AI or Caltrex® BI to carry out the claimed method, the appellants' specification, contrary to the examiner's argument (answer, page 3), would not be *per se* nonenabling. See *In re Metcalfe*, 410 F.2d 1378, 1381-83, 161 USPQ 789, 792-93 (CCPA 1969).

For the above reasons we find that the examiner has not carried the burden of establishing a *prima facie* case of nonenablement. Accordingly, we affirm the rejection of claims 3-5 under 35 U.S.C. § 112, first paragraph, enablement requirement.

*Rejection of claim 4 under  
35 U.S.C. § 112, written description requirement*

A specification complies with the 35 U.S.C. § 112, first paragraph, written description requirement if it conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, the inventor was in possession of the claimed invention. See *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991); *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983); *In re Edwards*, 568 F.2d 1349, 1351-52, 196 USPQ 465, 467 (CCPA 1978); *In re Wertheim*, 541 F.2d 257, 262, 191 USPQ 90, 96 (CCPA 1976).

The examiner argues that a calixarene-containing stationary separation phase containing silanol or a silanol group is not described in the appellants' originally-filed specification (answer, page 4).

The appellants argue that Caltrex® - Catalog 2001 V.02, which is of record, shows that Caltrex® B columns include Kromasil Sil, which is a trade name for silica gel, and that

several of the Caltrex® B columns include methanol which reacts with silica gel to produce silanol or silanol groups (brief, page 9).<sup>3</sup>

What the appellants' evidence must show is that as of the filing date sought, the inventors were in possession of the claimed invention. The appellants' filing date is April 21, 1999. The Caltrex® catalog relied upon by the appellants, however, is numbered "2001 V.02" and gives prices for 2000. Thus, it reasonably appears that the catalog was published after the appellants' filing date. Consequently, the catalog is not

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<sup>3</sup> In the event of further prosecution the appellants should provide support for the argument that the methanol in the columns reacts with the silica gel to form silanol or a silanol group. The arguments of counsel relied upon by the appellants cannot take the place of evidence. See *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984); *In re Payne*, 606 F.2d 303, 315, 203 USPQ 245, 256 (CCPA 1979); *In re Greenfield*, 571 F.2d 1185, 1189, 197 USPQ 227, 230 (CCPA 1978); *In re Pearson*, 494 F.2d 1399, 1405, 181 USPQ 641, 646 (CCPA 1974). Also, the appellants and the examiner should address whether the silica gel used in the Caltrex® columns contains silanol groups regardless of whether the silica gel is contacted with methanol. We point out that 21 *Kirk-Othmer Encyclopedia of Chemical Technology* (John Wiley & Sons, 4<sup>th</sup> ed. 1997) states that "[s]ilica gel (see Fig. 8) is a coherent, rigid, continuous three-dimensional network of spherical particles of colloidal silica. Both siloxane, -Si-O-Si-, and silanol, -Si-O-H-, bonds are present in the gel structure" (page 1020), and that "[s]ilanol surfaces are formed by drying silica gels or precipitates from water at temperatures below 150°C (page 1022). A copy of the relevant section of this encyclopedia is provided to the appellants with this decision.

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effective for showing that the Caltrex® calixarenes were supported on silica gel at the time the appellants' application was filed.

Because the appellants' specification does not disclose that the Caltrex® AI column or the Caltrex® BI column includes silanol or a silanol group, and the catalog relied upon by the appellants in that regard is not effective for showing what was known in the art as of the appellants' filing date, we affirm the rejection of claim 4 under 35 U.S.C. § 112, first paragraph, written description requirement. Because our rationale differs substantially from that of the examiner, we denominate this affirmance as involving a new ground of rejection under 37 CFR § 1.196(b).

#### *DECISION*

The rejection of claims 3-5 under 35 U.S.C. § 112, enablement requirement, is reversed. The rejection of claim 4 under 35 U.S.C. § 112, written description requirement, is affirmed.

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In addition to affirming the examiner's rejection of one or more claims, this decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b), by final rule notice, 62 Fed. Reg. 53, 131, 53, 197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides, "A new ground of rejection shall not be considered final for purposes of judicial review."

Regarding any affirmed rejection, 37 CFR § 1.197(b) provides:

(b) Appellants may file a single request for rehearing within two months from the date of the original decision ...

37 CFR § 1.196(b) also provides that the appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (37 CFR § 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner....

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record....



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Should the appellants elect to prosecute further before the Primary Examiner pursuant to 37 CFR § 1.196(b)(1), in order to preserve the right to seek review under 35 U.S.C. § § 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If the appellants elect prosecution before the examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejection, including any timely request for rehearing thereof.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

*AFFIRMED-IN-PART, 37 CFR § 1.196(b)*

	)	
TERRY J. OWENS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
PETER F. KRATZ	)	
Administrative Patent Judge	)	APPEALS AND
	)	
	)	INTERFERENCES
	)	
BEVERLY A. PAWLIKOWSKI	)	
Administrative Patent Judge	)	

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LEOPOLD PRESSER  
SCULLY, SCOTT, MURPHY & PRESSER  
400 GARDEN CITY PLAZA  
GARDEN CITY, NY 11530

TJO:cae